# The Times and Register.

VOL. XXIX. No. 21. PHILADELPHIA, MAY 25, 1895. WHOLE No. 872

## Original.

### FAT IN PULMONARY CONSUMPTION.

BY THOMAS J. MAYS, A. M., M. D.
Professor of Diseases of the Chest in the Philadelphia Polyclinic and Visiting Physician to the Rush Hospital for Consumption in Philadelphia.

Fat is one of the most important, though one of the most unstable constituents of the human body. It gives weight, rounds off the angular outlines, and protects against cold and injuries. Normally it fluctuates with the cycle of the seasons, diminishes rapidly in disease, and speedily returns during convalescence. Its diminution marks one of the earliest symptoms of pulmonary consumption; hence, the index which is afforded by the weighing scale forms an element of precision in the diagnosis and prognosis of this disease.

What is the source of fat in the animal economy? Is it derived from the outside as fat, or is it manufactured by the body from other food? These are questions of great physiological and clinical significance in relation to the disease under consideration. There are two great classes of foods; the proteids, or albuminoids; and the fatty and starchy foods, and there was a time when the animal body was likened to a steam engine, inasmuch as it was believed that the proteids furnished the material for the structure of the machine, while the fats and starches were oxidized and gave the necessary force to keep the machine in motion. According to this view the fat of the body is derived from the fatty and starchy foods, and is used at once, or stored up for future purposes. This view is not strictly true, as will appear further on.

The fat of the body is contained in cells which are composed of protoplasm and possess nuclei. The cells abound in the interstices of loose connective tissue, and are found under the skin, especially in the soles of the feet, the palms of the hands, buttocks, female mammary gland, around the synovial capsules of the joints, in the orbits, in the medullary canals of bones, in the surroundings of the kidneys and the omentum, and on the surface of the heart.

When an animal fattens it appears that oil globules are formed within the fat-cells. These globules increase in number, while the protoplasm of the cell diminishes. These globules are not deposited in the cells in a mere mechanical manner, but they are formed by the cell itself and at the expense of its own protoplasm, which becomes very much attenuated. It seems, therefore, that the fat of the body is as much a secretion of the fat-cells as pepsin is a secretion of the peptic glands, or as the oily matter of the skin is the secretion of the sebaceous glands, or as the fat of milk is the product of the cells of the mammary gland.

From the fact that the protoplasm of the fat-cells undergoes metamorphosis when the oil globules form, it seems quite obvious that other than fatty food is used by the body in the manufacture of fat, and that in all probability proteid or albuminous food is used for this purpose. It was shown by Liebig long ago that fatty, starchy, and saccharine foods do not form the exclusive supply of fat in the body; for the butter in the milk of a cow far exceeds the scanty supply of fat in her food, and the wax which is produced by bees is out of

all proportion to the amount of sugar which they consume in their food. The feeding experiments of Lawes and Gilbert also demonstrate "that for every 100 parts of fat in the food of fattened pigs, 472 parts were stored up as fat," showing, therefore, that fatty foods only supply about one-fourth of the fat which is contained in the body.

That proteids form an important source of fat in the body is evidenced by the following facts: Microscopic observation shows that the fat of milk is formed by the epithelial cells of the mammary gland through the probable metabolism of protoplasm. Fat in milk is largely increased by albuminous, and diminished by fatty, foods. When cheese "ripens" its proteids are converted into fat. Milk-sugar is maintained in abundance in the milk of carnivora even when fed on an exclusive meat diet (Foster). Fatty degeneration, as is often witnessed in the heart and in other important organs, is further evidence that proteid substances are converted into fat.

By this I do not wish to convey the idea that albuminous foods supply the greatest part of the fat to the body; nay, we know that this is done by the carbo-hydrates; but I desire to lay special emphasis on the fact that fats and oils do not play the important part which they are popularly supposed to do in the nutrition of the animal body, and on the further fact that proteids are of greater value as fat producers in pulmonary consumption than they are generally believed to be. In fact, evidence is not wanting to show, as has already been hinted at, that both fats and carbo-hydrates diminish the metabolism of the body, while a meat diet enhances the same, increases the oxidizing activity of the body, multiplies the number of red blood-corpuscles, and leads to a rapid consumption of fatty and carbo-hydrate food. A great deal of harm has followed the doctrine that the fat of the body only comes from the fat of the food, and that therefore the only way to fatten a consumptive is to ply him with fats and oils of various description. Every experienced physician knows that oil and fats produce dyspepsia in many such patients, and do no good in some with whose digestion they seem to agree, while there are a few who thrive under their use, but whose fat does not seem to have any staying qualities. It seems to me that oily and fatty foods only confer a real benefit on a minority of consumptive sufferers, and that much greater service is rendered to the nutrition of such patients by the administration of albuminous foods, the important ones among which are freshly expressed beef juice, beef, mutton, lamb, milk, eggs, oysters, clams, proteinol, liquid peptonoids, beef powder, meat juice, beef peptones, etc.

An important question comes up here in regard to the influence which rest and exercise have on the fattening process of the human body. Is physical activity more conducive to fat-building than rest, or is it not? This may be said to depend altogether on circumstances. There is no doubt that in health exercise gives both fat and strength, but it is quite different with the invalid. The fat which is stored up in health represents so much surplus capital which is laid up for a rainy day; but the consumptive has no surplus capital and lives, as it were, from hand to mouth. All his energies are devoted to the maintenance of those bodily functions which are immediately necessary to life, such as circulation, respiration, digestion, innervation, etc., and very frequently these are carried on imperfectly. To him, therefore, exercise is meaningless, for he has no capital to exercise until he gets stronger and lays up some. Hence he must practice economy. He must restrict his outgo and increase his income. This he can only do by resting.

That rest promotes the collection of fat is shown in the fattening of animals. Swine and cattle, which are prepared for the butcher's knife, are not allowed to run loose, but are closely confined; and the geese of Strasburg, which fatten to enormous proportions in a few weeks, are shut up in tight boxes with just suf-

ficient room to project their necks. I have, again and again, observed that with no other change in the treatment except the substitution of rest for exercise, consumptives show a marked and distinctive improvement and gain in flesh.

It is also of great interest in this connection to consider the influence of the nervous system on nutrition; although, owing to the limited time at my disposal, I can only briefly refer to this subject. Whether there are special trophic nerve fibres or not, it is quite clear from the large number of experiments which have been performed, that the nutrition of that part of the body suffers if its supplying nerve is divided or injured. Clinical evidence points out the same. It is well known that in neuralgia, the limb, or area of tissue to which the affected nerve is distributed, emaciates and loses its fat. Clouston states (Mental Diseases, p. 469) that thinness is the almost constant accompaniment of melancholia, and that fattening of the patient is its natural cure; and he furthermore says that this depraved or weakened trophic energy speedily tends to end in phthisis pulmonalis. In fact, he believes that melancholia has a special proneness to terminate in pulmonary consumption. Phthisis and melancholia run a parallel course in this respect. Emaciation is their common enemy, while fat redeems both, and, according to Clouston, the latter is convertible into the former disease. Are we not able to discern in this a confirmation of the view that a causative relation exists between disease of the nervous system and disorder of nutrition? Is it not probable from this that the building of fat is intimately dependent on the integrity of the nervous system? This probability is strongly confirmed by the therapeutic action of strychnine. It is well known that this agent has no other influence except that which it exerts on the nervous system, and yet I know of no other single drug under the administration of which consumptives fatten more promptly than under strychnine when it is given in gradually increased doses, and combined with suitable rest and nutritious food, as is attested by the following list of cases abstracted from my notebooks, which includes those adult patients who have shown the greatest disposition to gain in flesh during the last three years.

(1) N. Second stage; gained ten pounds. Still under treatment.
(2) P. First stage; gained fifteen pounds. Recovered.
(3) W. Third stage; gained twelve pounds. Disease arrested. Is at work.
(4) R. First stage; gained ten pounds. Disease arrested.
(5) O. Second stage; gained sixteen pounds. Disease arrested.
(6) K. First stage; gained twenty-two pounds. Recovered.
(7) S. Second stage; gained twenty-eight pounds. Disease arrested. Is at work.
(8) S. First stage; gained eighteen pounds. Recovered.
(9) E. Female Third stage; gained twenty-seven pounds. Recovered. Gave birth to a baby one year ago. Remains well.
(10 N. Female. Third stage; gained thirteen pounds. Recovered. Gave birth to a baby a year ago, and expects another in four months. Is doing very well.
(11) J. Disease complicated with empyema. Drainage. Recovered. Gained seventy-three pounds. Is at work.
(12) S. First stage; gained sixteen pounds. Recovered. Is at work.
(13) T. First stage; gained forty-four pounds. Recovered. Is at work.
(14) B. Third stage; gained forty-six pounds Recovered. Is at work.

While it is true that increase of flesh is always desirable in the treatment of pulmonary consumption, it is a mistake to hold that every patient of this kind must make prodigious gain before recovery can set in. On the whole I believe that women are less inclined to gain than men, and I have known members of the former sex make an uninterrupted recovery without increasing in weight.

In summing up the principal points in this paper it appears that the fat of the body is manufactured out of carbo-hydrates, proteids, and fats; that for fattening purposes proteids and carbo-hydrates are superior to fats and oils; that the latter are overrated in the treatment of pulmonary consumption; that carbohydrates and fats hinder and proteid foods accelerate metabolism; that

rest of the invalid promotes the formation of fat, and that exercise retards it; that in all probability the production of fat in the body is largely under the control of the nervous system; and that strychnine through its stimulant action on the nervous system fattens the consumptive, and increases the number of his blood-corpuscles.

---

## EVISCERATION OF THE EYEBALL.*

BY L. WEBSTER FOX, M. D.,
PHILADELPHIA, PA.

Abstract of a paper read before the American Medical Association, Ophthalmic Section, held in Beltimore, May 7, 1895.

This operation must not be confounded with abscission, although both are somewhat similar in character. The latter operation has been abandoned by the majority of ophthalmic surgeons on account of its risks.

Evisceration consists in first excising the cornea and thoroughly removing the contents of the globe and replacing the vitreous with a glass globe.

Abscission of the cornea, as suggested by the older Critchett, was probably the best of a dangerous operation. In it no attempt was made towards emptying the contents of the globe.

We are indebted to three English surgeons for bringing evisceration prominently before the notice of the profession practically. Mules' (of Manchaster) first operation was performed in October, 1884. Brudnell Carter, who modified the abscission operation of Critchett some years ago, is now one of evisceration's most ardent advocates—while Bickerton, of Liverpool, performs it exclusively.

Frolich was the first surgeon to perform evisceration. This he carried out in 1881 and named it "Excochleation." Muldon and Graefe carried on their observation in 1884, while Dubanton followed next with a series of experiments.

I shall not review the literature on the subject, as it has been most carefully done by my friend, Dr. G. Oram Ring, in a very recent article on the subject. My remarkss shall be limited to my personal experience with some cases.

In 1885 I performed the operation twice in the Germantown Hospital, but the reaction was so great, including tremendous swelling of the orbital tissue and eyelids, great pain and an elevation of temperature (105 degrees in one patient, 105.5 degrees in a second) I felt that discretion was the better practice and removed both glass globes, later on removing the small stumps of the atrophied eyeballs. During the summer of 1893, while in Liverpool, Mr. Bickerton brought to my notice three patients upon whom he had recently operated. The cosmetic effect was so beautiful that I again became deeply interested and gathered renewed courage at his success. I also had the opportunity of witnessing the operation at the Liverpool Infirmary by Mr. Bickerton, and also the after treatment. To see a skilled operator carrying out the technique of an operation is infinitely better than to follow the details of a written description, be it ever so clear and concise.

The third patient (1) upon whom I performed this operation, June 29, 1894, at the Medico-Chirurgical Hospital, was a young Assinaboine Indian from Montana, now at the Carlisle Indian School. He was brought to the hospital by Dr. Montezuma to have the eyeball enucleated on account of pain and much discomfort. As near as we could get at the history of the loss of the eye, it was this—about three years previously while on the plains an inflammation of the left took place, which gradually progressed to an ulceration of the cornea, and finally, to complete destruction of this part of the eye. Instead of removing the eyeball, a Mules' operation was performed, under ether. The details of the operation were carried out without complication and the patient put to bed.

* "Evisceration of the Eyeball, reported in the University Medical Magazine, April, 1895.

(1) Reported in Codex Medicus, Philadelphiae, November, 1894.

The orbit was examined after 24 hours—no untoward symptoms were present, excepting a slight swelling of the upper eyelid. Towards evening the eyeball became somewhat painful and the patient did not rest well during the night. Temperature, 102 degrees. The next day the temperature fell to 99 degrees. More swelling of the eyelids appeared with considerable chemosis of the conjunctiva, but no discharge of pus. Chloral and a bromide were given to quiet the pain, and hot fomentations were applied to the eyelids. On the third day the conjuctiva became very edematous and protruded between the eyelids, otherwise the patient's condition was about the same as before. The internal treatment at this time was hydrarg, bichlor., gr. 1-32, potass. bromidi., aa gr. x, three times daily. To the protruding conjunctiva pressure bandages were applied, which restricted the protrusion. The temperature fluctuated about the 99 line until July 7, when it fell to normal, and the various inflammatory conditions subsided. At the end of the week I removed the stitches from the conjuctiva. The sclerotic swelling did not subside for ten days, when the pain disappeared, and at no time during his residence at the hospital did it return.

The operation was entirely successful, affording a beautiful support for the artificial eye, which was adjusted July 18. The artificial eye stood out full and prominent with almost perfect movement—a decided improvement over the result of the old operation of enucleation.

Case 3. Operation performed October 26, 1894, on a young woman, a patient of Dr. Frutchey. She had been wearing an artificial eye over the blind eye for several years; the result was that she had symptoms of sympathetic irritation, and pain in the partially atrophied eyeball. The operation was carried out in detail, as above described. Upon removing the cicatricial cornea I found the scleral cavity filled with a bony mass, round and shaped exactly like a small acorn. This growth of bone was also a very important factor in the causation of pain. The bone was growing larger and the sclerotic coat was restricting its growth, hence the pain. The bone was removed without difficulty and given to Professor Laplace for microscopic examination. The patient had no untoward symptoms; the temperature ran up to 101 degrees the first day after the operation, and one-third to one degree above the normal line, but no visible change followed—the patient leaving the hospital in 12 days. In this patient there was no reaction, no swelling of the eyelids and the conjunctiva but very slightly chemotic. The artificial eye stands out on a level with its neighbor, the movement is perfect, falling but little short of normal.

Case 4. Young woman, age 22, admitted to the hospital on account of an irritable left eye, staphyloma of the cornea—eye useless. On account of the repulsive appearance of the eyeball the patient desired its removal, so as to replace it with an artificial eye.

The operation was performed under the same antiseptic precautions, with little or no reaction, no swelling of the eyelids and only a suspicion of edema of the eyelids. Owing to a difficulty in matching the right in color the artificial eye is not quite large enough. The movement is exceedingly good.

Case 5. Male, age 33. In September of 1884 was struck in the left eye by a brass spring, puncturing the sclerotic, from which exuded a bead of vitreous when brought to the hospital. The vitreous was snipped off and the scleral wound was closed by stitching over it the conjunctiva. The eye became involved in a general uveitis, with a result of total loss of vision and slight shrinking of the eyeball. I examined this patient about once a year, and during the ten years no inflammatory change took place in the eyeball. The hyperopia was fully corrected in the right eye and glasses worn. In January 13, 1892, the following note was made in my case book: "The sclerotic scar visible, though the conjunctiva no perception of light, total posterior synechia, lens cataractous, no

perception of light. Tension—1, eyeball manifestly shrunken, no pain nor irritation." On December 26, 1894, the patient came to see me on account of considerable congestion of the left eye, and slight pain on pressure. The result of the examination revealed sympathetic irritation. The patient was placed on active mercurial treatment, which reduced the active symptoms; both eyes became perfectly quiet. Having had this warning I advised the evisceration operation, which was performed February 2, 1895, at the Medico-Chirurgical Hospital. The operation was witnessed by Drs. Risley and Carpenter, two members of the association. The case made a very good recovery, with little or no reaction; the only defect is a slight gaping of the conjunctiva and sclera, owing to the central stitches of both conjunctiva and sclera giving way and allowing the glass globe to be visible. The patient is, however, wearing an artificial eye, and no inconvenience has become manifest up to the present writing.

Case 6. Child, female, age 11. Staphyloma of the cornea of the left eye, due to an ulcer of the cornea three years previously; since then the cornea has developed into a very large staphyloma. The operation was performed May 3, 1895. At the present writing the patient is doing well. The details of the operation are carried out under ether. The eye is thoroughly irrigated with a lotion, which I call formula 1, to designate it from almost the same formula for sterilizing instruments. The eyelids are separated with the ophthalmostat. The conjunctiva is dissected from its corneo-scleral attachment back to about the equator of the eyeball, the muscle not being interfered with, then the cornea is excised. This is best done with a large Beer's knife, as in performing a flap operation for cataract the lower half of the cornea is removed with a curved scissor and the contents of the globe taken out with a small scoop, devised for the purpose. Great care is necessary to remove the ciliary bodies and choroid and the head of the optic nerve, leaving the clean white sclera. Mr. Carter has devised a rubber bulb, which is inserted into the scleral cavity and inflated with air to produce pressure on the central artery to prevent hemorrhage. As this application has not been a success with me, I pack the scleral cavity with sterilized cotton. After waiting a few minutes this is removed, and the contents of the scleral cavity is again thoroughly irrigated with a hot antiseptic fluid. A sterilized glass globe, which is best suited to the case, is then inserted with a specially devised instrument, the scleral is split vertically, so that the edges may be drawn together and held by stitches of fine catgut, completely hiding the glass ball. The orbit is again thoroughly irrigated with a hot solution and the socket packed with sterilized cotton, over which is bound a sterilized bandage, and the patient put to bed.

Formula 1:

Irrigating Fluid.

| | |
|---|---|
| Hydrarg. Bichlor. | gr. 1-50 |
| Zinci Sulphi-carbolatis | grs 30 |
| Aq. Menth. Pip. | drs. 11 |
| Aq. Camph. | |
| Aq. Destil. aa | fl oz. 11 |

M. Sol.

P. S.—The same formula as the above, without the hydrarg., is used for sterilizing instruments.

In case 5, instead of using black silk to suture the sclerotic coat, sterilized catgut was used. Whether the knot became untied or whether absorption took place too rapidly, causing gaping of the wound and thus allowing the glass ball to press upon the conjunctival suture and cause it to tear, I am unable to say, but from whatever cause the glass ball is visible. The patient is now wearing an artificial eye without any inconvenience.

When the operation is performed under strict antiseptic precautions very little or no reaction follows, and the result, as Mr. Mules states, "are not as disturbing to the normal relation of the parts outside of the sclera as in enucleation." Dubanton and Graefe arrive at these conclusions, "that the procedure equaled in value enucleation in sympathetic disease, was safer as regards danger of purulent meningitis, can be performed in

panophthalmitis, and that whenever done a better stump is always secured."

If we have in evisceration a method equally as safe as in enucleation we certainly have in addition the advantage of giving better support to an artificial eye, getting rid of the sinister stare, the enophthalmus and more perimetric rotation, with no disagreeable muco-purulent discharge so common after enucleation.

1304 Walnut street.

## THE PATHOLOGICAL ASPECTS OF STEVENSON'S WAVE.*

BY A. W. JOHNSTONE, M. D., CINCINNATI.

Until within the last ten years every manifestation of hysteria was supposed, by the older writers, to be due to a nervous reflex, whatever that indefinite term may mean. This was supposed to be a pathological influence which was carried by the nerve fibres to various parts of the body, just like the derangement of the switchboard of one of our modern telephone systems may produce unheard-of complications in the most unexpected places. Such was the older idea of hysteria, that the uterus was the great switchboard and that through its nervous connections the vary phases of hysteria were produced, whenever it became deranged. I do not deny that such conditions still exist, and that some of the reflexes from the pelvis are undoubtedly due to this cause. We all know the rich nerve supply of the pelvis, how it is composed of fibres from both the sympathetic and cerebral systems; how they first unite to form the solar plexus, how the fibres come from both systems to make up the pelvic plexae, and how these plexae in turn are reinforced by ganglion cells of their own deposited all along these nerves, so as to make one of the most complex nervous systems in the body. So that with the solar plexus to start with, which has so aptly been called the abdominal brain, reinforced in this way by various storage batteries, as well as relay cells, it is no wonder that the uterine innervation is such a complex affair. These fibres are distributed not only to the muscular walls of the uterus, but, as some of the later investigators have shown, go to the parenchyma of the endometrium, as well as to the ciliated epithelium, and some of these ultimate fibres seem to have enlargements in the very periphery of the epithelium, which closely resemble ganglion cells, so that the uterus is supplied with one of the richest of all nerve systems, instead of being almost barren of nerves, as at one time taught. The ovaries and tubes are supplied in the same way. So that if you derange any part of the pelvis with an inflammation or new growth, you immediately disarrange a wonderful electric apparatus. The results of these derangements will be described in a far better way than I can do it by many of the specialists who are to follow me. This paper is to be more of a hydrostatic nature than of an electric, if you will allow a comparison from physics.

We have in the Stevenson wave an additional source of trouble, which, in my belief, produces the vast majority of the so-called hysterical manifestations. Many of you who have not been keeping up with the literature of gynecology may not understand thoroughly what this wave is, and on their account those of you who are already familiar with it will bear with me while I briefly explain it. Professor Stevenson, of Aberdeen University, has shown that there is a congestion wave running through the female pelvis, whose cycle is 28 days. We will take the starting point of this circle directly after the flow has ceased. For about 17 days we have almost an anemic condition of the pelvis, and if it were run out on a chart you would find a low level plateau, as it were, in the tracing, which has almost no undulations until about the 17th day. About this time the pressure begins to increase, but it is slow until about the 23d day. Then, however, the ascent is much sharper, because the pressure has become much greater,

* Read before the Obstetrical Society of Cincinnati.

and it increases very rapidly until the flow begins, at which time it is at its greatest. From this on it diminishes very rapidly until the flow ceases, at which time it has fallen back to the starting point of our original low plateau. This has been proved by delicate dynamometers. In addition to this blood pressure with the cycle of 28 days, which so closely resembles the wave of sleeping and waking, we have an urea wave and a carbonic acid wave, which, although not exactly coinciding with the pressure, follow it very closely. This means that we have an increased oxidation going on a short time before the flow begins. The necessity for all this is found in the fact that every child-bearing human female carries enough nourishment in her blood for two persons, and she must get rid of it or she will become clogged. The menstrual flow is simply to wash away the over-ripe corpuscles in the endometrium, which are put there for the manufacture of the placenta. The oxidation is to get rid of this albuminoid material, with which the blood has become too rich, and the carbonic acid and urea only mean the smoke and the ash from this condition of combustion. Many think this condition of things a kind of monstrosity in zoological life, but it is simply an analagous state to the old process through which all animals go in waking and sleeping. Most animals sleep about one-third of their time, and there is an increased pressure during waking and an anaemia of the brain during sleeping. So that in an animal which has risen on its hind feet, and thus cannot handle the physiological growth of the endometrium with the lymph stream and where a blood stream is necessary to cleanse it, all that nature has to do to produce menstruation is to introduce one of these same cycles of congestion and anaemia and let it run 28 days in the human being and three or four months in the monkey to accomplish her results. So that after all menstruation is not a monstrosity in zoological life, but simply the result of the erect position, and a development rather than a useless burden. Thus, then, the Stevenson wave has three elements for mischief in already weakened organs: First and foremost the increased hydrostatic pressure, then an increased amount of work in the excretion of urea, and in the excretion of carbonic acid. To take an illustration of what I mean, the Holly system of water pressure is an exact reproduction of the female mechanism. When nothing is wanted but the ordinary water supply, you all know the engines are run at only half speed, and many of them at only one-third and one-fourth speed. However, in the small towns where this system is used, regular fire engines have been done away with and when a fire alarm is turned in the engineer is immediately notified and he at once speeds up his engines at the regular pumping stations, so that the water pressure throughout the whole system is doubled or quadrupled, thus giving the fire pressure. This is exactly what happens in menstruation. But in order to stand this pressure the whole system must be equally strong, so that the whole system of a woman is adapted so that it stands the increased pressure of the Stevenson wave in the pelvis without deranging the rest of the system. If, however, there should be some weakened point in the water pipes when these engines are turned on to their full speed, something gives way at some part of the system, and the water is allowed to escape at points where it is not expected and the consequence is a reduction in the pressure everywhere. Should one pipe become plugged when this increased pressure is going on the pressure is increased in proportion to the amount of the system that is cut off. And these are exactly the conditions that we have in vicarious menstruation. I have been studying the subject closely for the last ten years, and wherever I find a regular vicarious menstruation it has been my habit to send the patient to some specialist on the organ through which the vicarious outlet is made, and I have never failed yet to have the report made me that a pathological lesion was found, that some little vascular growth or some abrasion in

which there were little weak, delicate vessels, was found, and the curing of this condition has never failed to cure the vicarious menstruation. Associated with it there is nearly always more or less inflammation of the uterus, which has toughened the endometrium so the blood cannot find free egress, and the consequence is that I have had to work in conjunction with these various specialists of the nose, throat, ear and so on, and by our combined work of curing pathological lesions wherever found we have cured both these pathological conditions and restored the patient to the normal condition. Speaking of alterations of pressure, the amenorrhoea of phthisis, protracted fevers and all forms of low constitutional conditions are easily understood. The vital forces are simply not strong enough to get up the requisite pressure necessary to rupture the small vessels of the endometrium. Many of these cases, as you all know, have the nervous disturbances of menstruation, but simply lack the flow on account of not having strength enough to get up the requisite pressure. Taking this vicarious menstruation as a picture of the whole subject, the vast majority of hysterical manifestations are easily explained. The next most striking illustration of these are the congestions of the liver and the rest of the chylopoetic system which is such a universal accompaniment of pelvic mischief. So much is it the case that I have laid it down as an axiom almost that nine out of every ten women who have had habitual bad digestion for years have some pelvic mischief as the prime cause of that trouble. You may think this a strong statement, but my case book makes it rather short of the mark than over it. I have found no less than three cases, which have been diagnosed gastric ulcer by the most prominent men in this city, that were completely cured of all gastric symptoms by removing the pathological condition in the pelvis. I have even seen two of three cases of severe hepatic congestion, which good men had gone so far as to diagnose as biliary colic, that were completely cured by removing their pelvic disorders without the slightest attention to the hepatic condition. In fact, it is a rare exception to find a woman with pelvic mischief who has good digestion. And if you will study these indigestions in the light of the crest and trough of the Stevenson wave, you will find that somewhere in its cycle they are always aggravated. In the vast majority of cases it is at the crest of the wave that the symptoms are increased, but in some it is in the trough of the wave, showing that it is an anemic condition that the system resents rather than a congestive. The most striking case of the anemic side of the wave producing mischief that I ever have seen followed a laparotomy. It was in a very highly educated woman, in fact one of the most intelligent that I ever saw, with an extremely sensitive nervous system. Everything went well with the operation until the tenth day, at which time the menstruation ceased. Coincident with its stopping the patient began vomiting, something that she had not done at all up to that time. There was no elevation of temperature, there was no constitutional disturbance, there was absolutely nothing but an acute indigestion. For 24 days to the hour absolutely everything that the patient put into her stomach was rejected, with the most terrific fermentations going on with everything. Had it not been for rectal alimentation, I am sure she would have died. It was three years ago right now, when I was just beginning to study the effects of the Stevenson wave, and after a week of this vomiting I came to the conclusion that my only hope was that it was due to the anemia of the solar plexus, due to the weakened condition of the patient, who had been an invalid for months before this sudden violent disturbance of the operation. One of the best men in the city was associated with me at the time, and I told him that our only hope was to keep the patient alive until the 28 days rolled around. On the 24th day to the hour the patient called for solid food, ate it with a relish, and for the first time digested it, and

from that day to this she has not had another vomiting spell. The patient has become fat, hearty and strong; in fact, for the last two years she has had absolute perfect health, when previously she was noted as the frailest woman in her county. While we are on the anemic part of the wave, there is one other condition which is undoubtedly due to it. That is inter-menstrual pain. You have all seen it, and many have found it to go on to such an extent as to produce convulsions. From the sixth to the 14th day after menstruation the pain starts in, and continues until unconsciousness is produced simply from pain and nothing else. This I have always found due either to adhesions, which are put on the stretch by the shrinkage of all the pelvic organs, or else while no adhesion is present, to a very hard parenchyma of the ovary, in which some of its sustentacular tissue is put on the stretch by this shrinkage. It can be laid down as an axiom that an abdominal organ which is already weakened is very apt to be aggravated by the irregular flow of this wave. You can easily see how this is the case. By inflammation the endometrium is hardened, so the accustomed outflow is in many ways interfered with, the pressure in the abdomen becomes greater, and the result is that any organ which is already weakened will probably resent it. So then in every periodic indigestion of every sort, size and description, the pelvis should be carefully examined. The abdomen, of course, catches the brunt of this pressure, for there it is normally at its greatest, but it is by no means the only place. The heart and lungs are interfered with by increased congestion. Occasionally you have a patient tell you she had difficulty of breathing at such times. But the play of the chest is so great and the work of the lungs so simple that this can easily be compensated for in the majority of cases, and chest troubles are by no means so frequent in complications of pelvic disorders as are diseases of those organs which lie in the cavity just beneath it. In the brain, however, we have a different state of affairs. The firm cranial cap will not allow for this increased pressure, and its organs simply have to stand as best they can whatever crowding this wave may give them. It has been my experience to find that menstrual headaches are much more common where the menstruation is scanty than where it is excessive, and I believe they are due directly to this same obstruction to the outflow of menstruation, thus causing reflected increased pressure in the brain. A beautiful demonstration of this I have seen twice, and that is an intermittent glycosuria which always followed a menstrual headache. So far as I know the symptom has never been described heretofore, and I may well take up part of the time in a careful description of it. Both cases had badly diseased appendages, and within a few hours after the onset of the menstruation in one case and the day before the starting of the flow in the other case, the most ferocious headache would begin. In both cases this had existed for several years. In the examination of the urine, preparatory to the laparotomies which followed, I found sugar present in the first case. It startled me and I postponed the operation. I watched the case carefully and to my surprise, in the course of three or four or five days after the headache had ceased, the sugar had entirely disappeared. Daily examinations of the urine showed no more sugar until the next menstrual epoch. The headache began as usual, but the sugar did not show up immediately. After the headache had lasted about 24 hours a slight trace of sugar was found, which increased rapidly until about the time the headache disappeared, about 48 hours from its inception. The sugar then continued for two or three days, but in rapidly diminishing quantities, to finally disappear again with the complete cessation of the flow. Finding it was of the intermittent character, the operation was done; menstruation was stopped, the headaches did not recur and the sugar has not since been found. The history of the second case is merely a repetition of the first. Its produc-

tion you all understand. The increased menstrual pressure, not finding its wonted outlet through the endometrium, gave a reflex pressure, just like the plug in the water pipe, and increased the cranial pressure. This continuing steadily and constantly, increased the pressure in the floor of the fourth ventricle, and the old class-room experiment was repeated by the inhibition of the pneumogastric nerve, thus giving an interference with the glycogenic function of the liver. Understanding this, menstrual headaches are plain. Admitting this periodic disturbance of the intra-cranial pressure we have a potent factor in the etiology of recurrent mental and convulsive manifestations. Granted an increased pressure in the floor of the fourth ventricle, the modifications of the disc and retina are easily understood, and the varying amblyopias are easy of explanation. Interference with the ear is made more easily comprehensible, and disturbances of the sense of smell are equally well understood. While speaking of the urine, there is one other condition that I have seen, and that is the casual albuminuria, which is undoubtedly produced by these aberrations of the menstrual pressure. and I have gotten now to the point of searching much more carefully in a case of simple albuminuria and am not satisfied on this symptom alone that there is a true Bright's disease present, for, like the sugar, it is occasionally produced by congestion where there is no real pathological lesion of the kidney.

I have spent so much time on the hydrostatic part of this that I will have to leave to the general practitioners following me the elaboration of the urea and carbonic acid waves, but you can all easily see how that the increased work thrown on the respective organs may be sufficient irritation to determine an organic mischief in an organ which has a predispositon in that direction. The fact that five per cent. of all female lunatics are cured or benefited by attention to diseases of the pelvis is a strong proof of this argument. In conclusion, I must say the discovery of the Stevenson wave and its benefits to the modern medical man in the elaboration of these feigned diseases have been surpassed by nothing in modern days, and equaled in its benefit to our calling only by Harvey's immortal discovery.

## TREATMENT OF PULMONARY PHTHISIS BY INJECTIONS OF GUAIACOL.

M. Le Tannuer has employed subcutaneous injections of guaiacol in sterilized oil for about three years. His method differs from that of Professor Burlereaux only therein that he employs guaiacol instead of creosote, the former being the really active principle of the latter. His formula has been 5 centigrams of guaiacol and 1 centigram of iodoform to 1 cubic centimeter of sterilized oil. He begins by injecting 1 c. c. m. every two days, gradually increasing up to three or more every two days, according to the sensibility of the patient. He reports excellent results, the incipient cases all being cured and the more advanced partly cured and partly very much benefited and relieved of the annoying symptoms, as expectoration, cough and night sweats.—Journal de Medecine de Paris.

## AVERAGE DURATION OF LIFE AMONG PHYSICIANS.

A curious statistical record has been compiled by Dr. Salzmann, of Essling, Wurtemberg, on the average duration of life among physicians. He found, in going over the ancient records of the kingdom, that in the sixteenth century the average duration of life among this class was but 36.5 years; in the seventeenth century, 45.8; in the eighteenth, 49.8, and at the present time they reach the favorable average of 56.7. It appears from the foot-notes to the above that this very great increase in longevity is due to the disappearance of the "Black Pest," the introduction of vaccination, and the great diminution in the number of typhus epidemics, three classes of diseases formerly the especial scourges of medical practitioners.—Am. Pract. and News.

# The Times and Register.

A Weekly Journal of Medicine and Surgery.

FRANK S. PARSONS, M. D.,
EDITOR AND MANAGER.

Subscription Price, - - - $1.00 Per Year.

Send money by bank check, postal, money or express order, payable to The Medical Publishing Co.



EDITORIAL STAFF.

W. H. PANCOAST, M. D., Philadelphia, Pa.
T. H. MANLEY, M. D., New York, N. Y.
E. W. BING, M. D., Chester, Pa.
S. H. MONELL, M. D., New York, N. Y.
J. R. CLAUSEN, A. M., M. D., Philadelphia, Pa.
AD. MEYER, M. D., Chicago, Ill.
LOUIS LEWIS, M. R. C. S., (Eng.) Phila., Pa.
J. A. TENNEY, M. D., Boston, Mass.
E. B. SANGREE, A. M., M. D., Philadelphia, Pa.
HENRY BURCHARD, M. D., D. D. S., Philadelphia, Pa.



PUBLISHED BY

THE MEDICAL PUBLISHING CO.

Communications are invited from all parts of the world. Original articles are only accepted when sent solely to this Journal. Abstracts, clinical lectures, or memoranda, prescriptions, news and items of interest to the medical profession are earnestly solicited.

Address all communications to

Room 718, Betz Building.

Entered at the Philadelphia Post Office as second-class mail matter.

PHILADELPHIA, MAY 25, 1895.


## EXPERT TESTIMONY.

If by any chance the Buchanan case should lead to a reform in the matter of expert testimony in criminal cases, it will have served one good purpose. Nothing more vicious than the present method of pitting experts against each other, one being paid by one prosecutor and the other by the defense, can be imagined. It strikes at the very root of impartial scientific investigation.

Each expert is made a partisan so far as his conscience will allow, and when his obstinacy has been irritated by opposition he will sometimes go to lengths that would previously have seemed impossible to him.

All this is suggested by the announcement of one of the experts for the defense in the Buchanan trial that he has completed a series of tests which, if they had been made earlier, would have destroyed the case of the prosecution.

The charge was that Dr. Buchanan killed his wife with morphine and atropine. The expert evidence for this was based on color reactions obtained from the contents of Mrs. Buchanan's stomach 64 days after she was buried. They were said to be unmistakable, and were made by Professor Witthaus, who was corroborated by Dr. Doremus.

Now comes Dr. Walter T. Scheele, an expert for the defense, and says that the same color tests have been obtained by him from ptomaines treated in the same manner. Ptomaines are alkaloids which are produced in a body during the process of decomposition. Dr. Scheele took two rabbits, killed them by suffocation, and buried them in earth from the cemetery in which Mrs. Buchanan had been buried.

After 64 days he dug them up and extracted the animal alkaloids. These he subjected to the tests which had been applied in the Buchanan case and held to be conclusive proof of the presence of morphine, and he obtained the same results that had been had in that case. On Monday he performed some of these experiments in public, all of which seemed to corroborate the position he had taken.

Now whether all this is genuine, new information, or merely another effort to save this man condemned to die for murder, in either case it suggests the defect of the present system of pitting expert against expert and practically offering a premium for confusion of truth rather than a clear exhibition of truth. When the State shall pay an expert chemist, or several, if need be, and they shall be set to work at such cases merely to find the facts instead of to defend an opinion announced in advance, justice will gain a great advantage and science will be relieved of a burden that is sometimes hard to bear.

## DIPHTHERIA ANTITOXIN IN SCARLET FEVER.

The above subject was the title of a paper read before the Children's Section, in the recent meeting of the

American Medical Association. The writer cited a case of scarlet fever, pure and simple, with well-marked angina of the tonsils, in which he had used antitoxin with very beneficial results.

In commenting upon the above assertions we must accept the diagnosis given as being correct, and that no diphtheria poison was present in this case, inasmuch as the benefit was noted by a dimunition of the rash and fever symptoms of scarlatina.

We have often seen analogy between the throat affection of scarlatina and that of diphtheria, the one often supervening upon the other, but we have no doubt that the two diseases are controlled by different poisons. Where, then, shall we base the theory on which the cure of diphtheria by antitoxin is supposed to depend? If we can cure scarlatina or other exanthematous disease by the introduction of diphtheria antitoxin serum, what has diphtheria to do with it so far as regards its toxic properties?

Theoretically we have been taught that diphtheria antitoxin was the natural antidote to diphtheria virus, and was developed in the blood of immunized animals; that it had a special action antagonistic to the diphtheria poison; hence, we should look for its use in this dsease alone. Moreover, it would be theoretical to infer that an antitoxin which would successfully combat scarlatina must be developed from the scarlatinal poison, otherwise we must argue that it is not necessarily the diphtheria virus which develops an antitoxin, but that some element exists in the blood of naturally immune animals that is antagonistic to the development of any of these diseases and which we inject into our patients.

The results obtained from experimentation and from the clinical use of diphtheria antitoxin warrant its trial in every severe case of the disease, but we must be careful when we draw theoretical inference from such experimentation of clinical data that we do not run into serious error in establishing a foundation for serum therapy.

## CHEMICAL BEEF STEAKS.

**The success of Dr. Lehner in manufacturing artificial silk, and the progress made by chemical science in imitating various food products, suggest to a contemporary that scientists may some day succeed in manufacturing toothsome beef steaks direct from the natural elements without the intervention of the cow or the steer. This idea is startling, but not entirely new.**

**We remember reading, some years ago, one of those novels similar in plan to "Looking Backward," forecasting what may happen in the future, and one of the predictions was that in a few hundred years from now no domestic animals would be kept by civilized people. Electricity, utilized by means of storage batteries, would supersede the horse as a traction animal, and all kinds of meats, poultry, eggs, butter, etc., would be manufactured by chemical process.**

**If this could be done of course vegetable substances could be imitated, and it might be possible to produce wheat, potatoes, fruits, etc., directly from the mineral substances and the water and the air, thus superseding the necessity of agriculture. In order to provide against the ultimate exhaustion of the coal and wood supply it will be necessary, sooner or later, to discover a process of collecting electricity directly from the earth or the clouds, or the sun, without invoking the aid of steam power—or else the water powers and the tides of the ocean and the winds will have to be harnessed and utilized for that purpose.**

**The latter is no doubt feasible, and in time the world may be lighted, and heated, and furnished with motive power without the employment of coal or steam.**

**In that distant day, when meats, and fruits and vegetables are produced by chemical action, and the motor power to do the world's work is supplied by the natural forces, much of the uncertainty will be eliminated from human life. There will be no crop failures on account of too much or too little rain, early or late**

frosts, untimely heat, hail or cyclones.

There will be no pleuro-pneumonia, glanders, epizootic, foot rot or other diseases among domestic animals, because there will be no necessity for domestic animals. The quantity of everything required can be calculated and produced to a mathematical certainty, and it ought to be easy to eliminate poverty, starvation and misery. The fields could be converted into pleasure gardens, and the people would be able to exist with only a nominal amount of work, and that of the higher grade, as electricity, through the medium of varied machinery, would do all the rougher kinds of labor, and perhaps everything except that which involves intellectual processes. There is, in fact, hardly any limit to what may be accomplished if the human race is permitted to occupy this terrestrial globe long enough to completely explore the secrets of nature. The possibilities of the future constitute a field in which the imagination may run riot without trespassing upon the domain of the impossible.

We may even find a way to absorb chemical elements sufficient to support life without the trouble of eating, and to forestall decay, resulting in perpetual life.

---

## THE INTERESTS OF THE POOR ARE THE ONLY INTERESTS WORTHY OF CONSIDERATION.

Dr. Champneys, in the London Lancet, while dwelling on the subject of the registration of midwives, which has been agitated for so long in England, gives the following tribute to the nobility of the medical profession:

As doctors we have a right to exist only so long as we are required. Midwives have precisely the same claims. If they are required they will exist; if they cease to be required they, like us, will cease to exist. Doctors are made for the sick, and not the sick for the doctors. A patient is a person who requires a doctor; a doctor is not, in the same sense, a person who requires patients. A patient is not, primarily, an organism for excreting so many guineas or shillings per annum as an aphis exudes syrup at the titillation of an ant, or a cow secretes milk under the blandishments of a dairymaid. This is a fact often forgotten. If a poor woman requires a doctor for her confinement she can have one. If she prefers a midwife she can have one—trained, certificated and comparatively safe; or she can have one untrained, uncertificated, ignorant, skeptic and fatal.

Besides this, our profession claims or accepts without protest the title of "noble," which is often bestowed on it. To what does it owe its nobility? Surely to the unselfishness which is one of its best traditions. Our profession glories in postponing its private interests to the good of the public. It has abolished profit making by secret remedies, and has come to look upon it as really (and not in the sense of the General Medical Council) "infamous." Why is it more infamous for a medical discoverer to make money out of his secret knowledge than for a man in business, such as a brewer, to do the same? Simply on account of this claim of "nobility." In what other profession can you parallel the enthusiastic propagation of the great class of remedies which began with Jenner's vaccination, and have been so marvelously extended at the present day; or of the wholesale benefits of preventive medicine? It is to be remembered that every such improvement means, in the first instance at least, loss of income to the whole profession. And yet no medical man has ever been known to protest against measures for the preservation of life and health, "though it were to his own hindrance." I confess that the bacillus of cholera seems to me to stand on the same footing as those of septicemia, and that the profession whose glory it is to endeavor to destroy the one should not regard with levity the chances of the spread of the other. I have said that our profession

stands alone in its attitude in this respect. Yet I imagine that other professions, which make no such claim to pre-eminent virtue—as, for example, the legal profession—would stand aghast at a proposition which would be likely to set their fellow countrymen by the ears, even if they saw their own profit in such an event. I think that there is little "nobility" to be seen in the present agitation.

## Book Reviews.

PRACTICAL CHAPTERS ON STATIC ELECTRICITY. By S. H. Monell, M. D., New York, Editor Electro-Therapeutic Department of the "Times and Register." Collected and reprinted from various medical journals. Published by the Galvano Faradic Company, New York. Price, 25 cents.

This little monograph gives a resume of much of the work done by Dr. Monell on static electricity, in which department he stands among the foremost of his colleagues. It is exceedingly valuable to any one interested in electricity as a therapeutic agent and its low price will enable the readers of this journal to secure it.

---

THE PHYSICIANS' GERMAN VADEMECUM. By Dr. Richard S. Rosenthal, Chicago, Ill. Published by the Rosenthal Company. In two volumes. Price, $2 each.

This little work is intended to teach German to physicians or at least so much of it as is applicable to its use among foreign patients. It is quite complete, but by no means as efficient as a through course in German. It is quite analagous to the physician's interpeter in the work published by ourselves entitled "Physicians' Vademecum," which also includes French.

BOOKS AND PAMPHLETS RECEIVED.

CELIOTOMY FOR PUERPERAL SEPTICEMIA AND PERITONITIS. By Charles P. Noble, M. D. Reprint from the American Gynecological and Obstetrical Journal.

THE DIAGNOSIS OF PREGNANCY DURING THE FIRST THREE MONTHS. By Charles P. Noble, M. D. Reprinted from the Transactions of the Philadelphia County Medical Society, 1894.

REMARKS ON THE TREATMENT OF INEVITABLE ABORTION. By Charles P. Noble, M. D. Reprinted from Codex Medicus Philadelphiae, October, 1894.

SOME IMPRESSIONS OF GYNECOLOGY IN EUROPE. By Hunter Robb, M. D. Reprint from Western Reserve Medical Journal.

## Surgery.

IN CHARGE OF
DR. T. H. MANLEY, New York.

### SUPRAPUBIC FIXATION OF THE UTERUS IN CERTAIN CASES OF RETROVERSION AND PROLAPSE.

Dr. Thomas Keith (London Lancet, September, 1894) describes an operation for cases of intractable retroversion and prolapse which has proved efficacious in his hands. The uterus is pushed up against the abdominal wall with a sound, and a small opening made over the fundus a little larger than sufficient to admit the forefinger. Guided by the finger the right round ligament is seized by forceps and slowly pulled up with the broad ligament until the ovary is reached. This is brought out with as much of the broad ligament as will come, and the pedicle drawn together by a small silk thread and tied. The stump being held by forceps, the abdominal wound is accurately closed with several sutures, care being taken not to strangulate the stump. This is dried with perchloride of iron, and the ordinary clamp applied on a level with an encircling ligature, so that the tissues

do not spread out, and there is thus a slender stump left to separate. In none of the cases has there been a trace of hernia, and no wound has ever suppurated. Dr. Keith has done the operation 34 times, and his son, 17, and all the patients were cured permanently.

The advantages of the operation are, that the uterus being attached only by the right ligaments has freer movement than by any other method; there is less risk to life, as there is no invasion of the cellular tissue by needles and stitches; and the fixation is more sure as the ligament is fastened into the wound, whereas simple peritoneal adhesions may become absorbed. The only objection is the loss of one ovary, but one ovary seems to be as useful as two. The right ligament is chosen, because if the left is taken there is generally more tension on the bowel. The advantage over the Alexander is, that the latter has only the round ligament to depend upon, while this has all the tissues that go to make up the broad ligament, and all covered by peritoneum.—Boston Medical and Surgical Journal.

## TURPENTINE AS A HEMOSTATIC.

Sasse refers to the but slightly known hemostatic properties of oil of turpentine, though it has met with considerable success in dental practice. He first used it on a patient who for several hours after an extraction had been bleeding profusely. A tampon of wool soaked in the oil led to an immediate arrest of the hemorrhage. Thereafter the author was tempted to employ the liquid in the treatment of scurvy. The gums were hourly painted with the undiluted oil, which was also retained in the mouth for a brief period, and administered internally in small doses. The oral hemorrhage, as well as the co-existing hematuria, gradually ceased, while the patient's health improved. Similarly a hitherto unaffected hemorrhage from the bladder was cured by the hourly administration of an emulsion of the oil. Finally, Sasse quotes several authors who have successfully employed turpentine in cases of hematuria and hemoptysis. Ferripyrin, on the other hand, is not only intended to act as a hemostatic, but also as an astringent. It was first produced by Witkowsky, and is a combination of antipyrin, iron and chlorine. It has already been successfully employed by Hedderich as an application to mucous membranes where even prolonged use leads to no destruction of tissue. It can be used as a powder, but preferably as an aqueous solution, 18—20 per cent. in strength.—The Practitioner.

## A RARE CASE OF HEMORRHAGE.

(Klinische Rundschau Jahrgang, viii, No. 1, 2.)

Galtier reports the case of his own son, aged 11, who had such a severe hemorrhage from the nose that the use of tampons were required to control it. As soon as the tampons had been placed in position the boy's eyes filled with blood, the blood having found an outlet through the lachrymal duct.—Archives Pediatrics.

## HEMORRHAGE FOLLOWING TONSILLOTOMY.

(Archives-Kinderheilkunde, B xviii, H 1, 2.)

A 3-year-old girl in whose family the hemorrhagic diathesis was prominent underwent the operation of tonsillotomy. McKenzie's instrument was used. The operation was followed by hemorrhage, which continued for two days, and upon which the use of styptics were of no service. The Paquelin cautery was brought into use, and the bleeding ceased.

Both tonsils were removed from an 18-year-old girl. Severe hemorrhage followed, from which the patient nearly lost her life. The hemorrhage in this case was controlled by the application of tannin. In a search through the literature the author finds that bleeding of a dangerous degree is very rare, and that a death from this cause had never been recorded. Severe hemorrhage appears to take place more frequently in adults than in children.—Archives Pediatrics.

## Electro-Therapeutics.

IN CHARGE OF

DR. S. H. MONELL, New York.

### THE MILLS OF THE GODS GRIND SLOWLY.

The rate of current flow of accurate knowledge respecting medical electricity and its scientific applications to afflicted patients may be justly compared to the calm progression of cold sorghum from the bunghole of a barrel in winter time. It flows, but it flows slowly! Very slowly, indeed!

When an "average expert" converses on the subject with other physicians who are not "average experts" he wonders if the medical profession have yet heard of the discovery some time back of an agent called electricity, which has already in skillful hands during a brief clinical trial of a hundred or so years exhibited some properties almost as valuable as those of the more fully-tested tuberculin, antitoxine, antipyrine, cerebrine, ovarine, testine, etc.

I speak not of those addicted to the "family battery" habit, but of the true esculapian who keeps abreast of contemporaneous bacteria, and is ever on the alert to add the new resources of foreign laboratories to his armamentarium, who will in sutiable cases even go to the length of recommending the bicycle. I have just been consulted about "a very desperate case." Young lady aged 25, unmarried, anemic, pains in calves, tender breasts, palpitation, etc., but never mind the history or the diagnosis. For one whole year she has been invalid. At present her friends expect her to die soon. Her faithful family doctor has told them he has done about everything for her, and he can do no more. The amount of worry she has caused her friends has been colossal. Now, what she needs and practically all her simple case requires is "a little electricity."

As I see her condition the needed electricity presents itself to my mind in the shape of sedative tonic—Bipolar applications from a properly selected high-tension induction coil and positive static insulation and spinal breeze. These, together with good food and fresh air, would rapidly make a new creature of her.

"But," she says, "she has tried electricty and she always had a sick spell after it."

Indeed! who did the "trying?" She thereupon soberly informs me that "her physician, who was a great electrician and who even made a specialty of it, treated her several times—outside, with sponges—to bring on her courses, which had left her for a year, and she could not stand electricity—it made her feel awful, and has done no good."

Seriously speaking, this is a sad state of affairs. A mysterious Providence is said, by good authority, to protect children and drunken men; but who can be relied upon to rescue suffering and helpless patients from the maleficient uses of a most beneficent and valuable remedy.

Within a week I was conversing with a skillful general practitioner of 20 years' experience, a man of more than ordinary education and ability. Happening to mention electricity as applied to the development of muscular tissue I saw at once from his remark that his mind dwelt in medical darkness on the subject, although a neatly cased, but small battery was visible in his office. With deferential courtesy I ventured to ask in regard to his experience with electricity, and he replied that he "had used it a good deal when he first began to practice." Yes! but what currents, methods, forms, battery, etc.? Oh, both kinds, galvanic and faradic; but he did not see much advantage in them.

It is like running up against a stone wall to attempt to enlighten the placid ignorance of such self-satisfied supposed knowledge.

A telegraph operator once wrote me from a village in Texas that he "knew all about electricity," and wanted to treat himself for writers' cramp under my directions. A telegrapher may perhaps sum up all human knowledge on this great subject, but a physician should ever open his

mind to seek light, information and grasp the truth.

Converting the heathen is well known to be a long, slow job, but the missionaries of succeeding generations keep at it, and our churches never stop passing the contribution box for foreign missions.

Now the enlightenment of highly educated, hospital trained and dispensary practiced physicans upon the progress of medical electricity and its great and increasing and proved value is a case for missionary labor. Unfortunately neither the constant current nor the ingenious induction coil, nor the highly improved static machine posseses a bacillus to spread its wings and fly forth from the laboratory of some Berlin university into the affections of a hypnotized medical world waitng to swallow it.

It takes missionary work along with the Scotchman's mallet to hammer the facts into the gray matter of the doctor's repository for new and startling intelligence. Electricity itself is one of the swiftest of travelers, but knowledge of its proper medical uses crawls limpingly on its bright career around the world and travels as if harnessed to a tortoise.

Now who is to play the missionary part in this field? Schools ought to do some of it. They teach a little now, but not much. They never will teach more than the rudiments. If they stop fostering prejudice it will be a boon.

So far a few pioneer physicians who have first taught themselves something of electro-therapeutics have done most of the work of propagandism. Teaching will properly always be chiefly done by these and others like them in post-graduate schools, clinics and specially provided courses of instruction. But the real missionary work, the spread of general information on the value of this agent, the building up of a belief in this value among general practitioners, the up-rooting of old prejudices, the out-casting of the pernicious family battery, the substitution of high grade apparatus, the development of a recognition of the differences in form, effect, dose, methods of production, and wide range of differences in application; and, furthermore, that approved curative results require the proper selection of current, dose and technique, devolve of necessity upon the manufacturer. He alone has a financial stake in the growth of a market for his wares. He alone can employ the resources of advertising, without which the demand for good batteries will be as slow to spread as the demand for overcoats in Africa.

It is the dealer who must live by the sale of his goods who can do most to create an appreciation per se of this useful remedy, and a desire among physicians to know more of its merits and methods of scientific application.

Benefit to both the profession and humanity would result from increased enterprise and activity on the part of reputable manufacturers of electrical instruments.

---

## ELECTRICITY IN THE TREATMENT OF EXOPTHALMIC GOITRE.

At the recent meeting of the American Medical Association in Baltimore Dr. Robert Newman, of New York, presented a paper on this subject in which he said in part: "Most authors believe that Graves' disease is a disease of the sympathetic nervous system, and medical treatment has been empirical and unsatisfactory. He would only consider the treatment by electricity, which has promised to do more than medicines. Successes have been reported by different authors who have applied electricity in different ways, but most agree that galvanism is the appropriate current to be employed. A dozen or more authorities were cited showing that while all operators gave particular attention to the sympathetic nerves yet they differed in the choice of poles, the regions and ways of application, and in the apparent intention with which they proceeded. All surgical applications of electricity, such as galvano-cautery, electrolysis, cataphoresis, electro-

puncture, etc., were found to give no curative results. Dr. Newman had treated three cases which could be called cured. All were females. The first was a very aggravated one. having previously been for 10 years under the care of an eminent electro-therapeutist with some improvement from a condition in which her life had been despaired of. She came under the author's observation in the fall of 1893, and was carefully treated by him for one year, when she declared herself well and has since remained so.

Full details of this case were given, with clinical history, symptoms and methods of treatment. Galvanism in several ways was administered three or four times a week. Absorption of the tissues causing protrusion of the eyes was promoted by medical electrolysis. To the eye the negative pole with a saline solution was applied by means of an eye cup, while the positive electrode was held in the hand. A mild current only was tolerated. A negative sponge pad electrode was applied to the thyroid. Applications to the sympathetic were varied in manner. The solar plexus was especially influenced.

Case 2 resembled the first, but was less aggravated. Galvanic treatment was pursued for nine months with marked improvement. The third patient was an opera singer whose mother had died of Graves' disease, and who had gradually failed under medical treatment till she was obliged to resign her profession. Galvanic treatment was begun by Dr. Newman in December, 1894. In less than four months all symptoms have disappeared and the lady considers herself well and ready to resume work. In this case uterine complication existed together with marked anemia.

The galvanic treatment was supplemented by the static spray with excellent effect, the latter being given twice a week.

In conclusion Dr. Newman believed that treatment should be more comprehensive than was usual and should be directed also to symptoms and complications. Complications were anemia, emaciation, insomnia, uterine affections, irritability, edema, fainting spells, etc.

The indications for treatement were:

(a) To reduce the pulse, regulate the heart action, produce rest and sleep and allay nervous irritation.

(b) To diminish the size of the thyroid gland.

(c) To remove the plastic new formation behind the eyeballs, as otherwise the protrusion of the eyes and consequent deformity of expression cannot be relieved.

Treatment must include the penumogastric. Current strength must be regulated according to the toleration of each patient. The operator must exercise great care in slowly increasing the E. M. F., and every step of increase and decrease must be made with care. The exact measure in milliamperes of the dose cannot be stated, but is governed by the individual sensation.

In some cases and about the head two milliamperes may be too much, while other cases and in other applications 20 to 30 may be endured. It is also essential to regulate the dose in the same patient according to the region treated, the size of the electrodes, the resistance between the two poles, etc. My treatment therefore would be galvanism to the sympathetic and pneumogastric in such form as to reduce the pulse and regulate the heart action. In other diseases galvanization soothes to such a degree that patients may fall asleep during seances. Static electricity properly and skilfully applied will render important assistance as a sedative tonic.

The thyroid gland will almost certainly be reduced by the negative pole of the galvanic battery.

Surgical means have not been successful. Complications must be treated in accordance with indications. In employing static, sparks should be avoided, and applications confined to insulation and the breeze.

These also should be avoided: Too strong currents, too long and fatiguing sittings, internal electrolysis and surgical electricity.

The faradic current was deemed

contra-indicated by Dr. Newman. With regard to general rules the author advised also the avoidance of excitement, over exertion, emotions, stimulants, strong tea and coffee, and concludes by remarking: "It is evident that the treatment and especially the application of the electricity must be entrusted to an expert, and that the family battery for self-use (or abuse) is entirely out of the question."

## Wayside Notes.

By E B. Sangree, M. D., Philadelphia.

A smart young lady stepped into the drugstore and asked for a dose of castor oil.

The agreeable drug clerk engaged her in conversation a few minutes and then asked whether she would like to have a glass of soda.

Thinking that her charms had influenced his suceptible heart she replied:

"Yes, if you please."

"What flavor?"

"Vanilla, if you please."

A few more words and then the young lady asked: "Will you give me the castor oil now?"

"Why, you've just drunk it," replied the clerk.

"Good gracious!" she exclaimed, "it was for my sister Mary."

---

From the answer one frequently gets in the dispensary room there seems still to be many diseases both trivial and fatal that are as yet not classified nor noted in the text books.

"My father," replied one, "died of the effects of the liver caused by a kick."

Another poor patient's father succumbed to "dropsy and asmus."

A third patient came near yielding up the ghost to a severe attack of "digestion of the kidneys."

Sometimes, though, they seem to go off without adequate cause.

"What sickness did your mother and father die of?" was asked one, and the rather surprising reply was: "I don't know, doctor, but it was nothing serious."

---

I wonder whether the practice of law will ever be so conducted that a respectable man will not find the witness-box as uncomfortable a public position as was that of the pilloried malefactor in the olden time.

This reflection was inspired principally by reading accounts of the preliminary hearings in the late notorious San Francisco murder case. The pastor of the church, apparently without a shadow of reason, fell under the ban of suspicion, was hauled before the Court and subjected by a hostile lawyer to a cross-examination running back over his whole life. As if this were not enough the account added that "the Judge was very sarcastic with him." Just because a crime was committed in his church the clergyman must be baited in open Court, and with no redress or no means of retaliating on his tormentors.

And in this city, just a few weeks since, in a notable case, a number of most reputable men who were unfortunate enough to know something about the case were put in the witness-box and insulted most grossly time and again by the attorney for the other side. The Judge did not protect them, and in such a position it seems our inadequate law allows a man no chance to protect himself. After all the Courts, the Judges, the lawyers and all the paraphernalia and processes of law are nothing but the work of men's hands, and exist only through the sufferance of the people; then why should society allow methods to continue that may subject to insult at any moment some of its members?

Individually we are helpless before this creation of ours, and the whole relationship reminds me strongly of that existing between the savage and his fetich. First he fashions fetich out of wood or stone, and then falls down and worships it in fear and terror.